

RESPONSE

U.S. Application No.: 08/987,380

Basically, the Examiner's position is substantially the same as that set forth in the previous Office Action.

The Examiner cites Kogler et al. as teaching a method of coating granular agrochemicals with polyurethane for controlled release of active ingredients, wherein polyisocyanate and polyols are premixed. *See* abstract and Examples 2-5 in cols. 5 and 6. The Examiner asserts that Kogler et al. teaches that the coating's properties may be manipulated by using different polyols and different isocyanates. *See* col. 2, line 49 to col. 3, line 29.

Therefore, according to the Examiner, it would have been obvious to a person of ordinary skill in the art to modify the pesticidal granules of Tocker by mixing the polyols and polyisocyanates first and then coating the granules with the mixture of polyols and polyisocyanates.

Regarding claims 5, 7, 10, 11 and 13 which recite a water absorption ratio of the polyurethane that is not more than 5%, the Examiner asserts that the polyurethane coating of Tocker is reasonably expected to have the same water absorption ratio as claimed herein, and further asserts that optimization of properties of the coating by using different isocyanates or polyols is considered within the skilled of the artisan, as discussed by Tocker et al. (cross link degree) and Kogler et al. (different polyol and isocyanate).

With respect to Applicants' arguments, the Examiner asserts that a coating system which renders agrochemicals (both pesticides and fertilizers are well-known agrochemicals) the desirable properties would have been reasonably expected to be similarly useful for both pesticides and fertilizers. The Examiner asserts that, in fact,

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Kogler et al. teaches that the coating may be broadly used for any ingredients that are to be released in a controlled manner. The motivation, according to the Examiner, is to obtain stable granules, which are resistant to frost, and provide sustained release of active ingredient.

Applicants respectfully traverse the rejection for the following reasons.

Applicants submit that a person of ordinary skill in the art would not be motivated to modify Tocker.

Tocker discloses a process for preparing controlled release granules of pesticides including overcoating a granular carrier containing a pesticide and a polyhydroxylated compound or water with a liquid polyisocyanate and a polymerization catalyst. See page 9, lines 3-7 and lines 25-29 of Tocker. Since the polyhydroxylated compound is contained in the granular carrier, polymerization of the polyhydroxylated compound and the polyisocyanate is conducted on the surface of the granular carrier (i.e., interfacial polymerization is conducted). As a result, controlled release of pesticides is obtained.

Accordingly, Tocker is complete and functional itself so there is no reason to use parts from, add to, or substitute parts of Tocker. That is, since the process of Tocker provides controlled release, there is no reason for a person of ordinary skill in the art to pre-mix a polyisocyanate and polyols, then apply the mixture to a granular carrier or to repeat such step.

The Examiner states that "it would have been *prima facie* obvious to a person of ordinary skill in the art, at the time the claimed invention was made, to modify the pesticidal granules of Tocker by mixing the polyols and polyisocyanates first followed

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by coating the mixture to the granules." However, the Examiner does not explain why one skilled in the art would coat the pesticidal granules of Tocker (which were controlled release granules and prepared by overcoating a granular carrier containing a pesticide and a polyhydroxylated compound or water with a liquid polyisocyanate and a polymerization catalyst) with a mixture of the polyols and polyisocyanates of Burger or Kogler. Tocker, Burger and Kogler fail to teach or suggest such a coating.

Therefore, Applicants submit that one of ordinary skill in the art would not arrive at the present invention based on the disclosure of Tocker, Burger and Kogler.

In addition, as mentioned above, the polyhydroxylated compound of Tocker is

contained in the granular carrier as well as a pesticide. On the other hand, the polyols of Burger and Kogler are not contained in the granular carrier. Therefore, the polymerization reaction of Burger and Kogler are different from that of Tocker.

Therefore, one of ordinary skill in the art would not simply combine the references with different polymerization reactions to replace one type of polymerization reaction with another unless there is motivation to do so. As discussed above, since Tocker is complete and functional itself and uses a different polymerization reaction from Burger and Kogler, one of ordinary skill in the art would not combine Tocker with Burger and Kogler.

Claims 5, 7, 10, 11 and 13 recite that the water absorption ratio of the polyurethane is not more than 5%. The present inventors discovered that it was preferable to select a resin having low water absorption ratio (preferably not more than 5%) to obtain high crosslinking degree of resin. The composition coated with a resin

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having a water absorption ratio of not more than 5% releases the pesticidal active ingredient for longer period. *See Table 2 of the present specification.*

With respect to claims 5, 7, 10, 11 and 13, the Examiner states that “the polyurethane coating of Tocker is reasonably expected to have the same water absorption ratio as claimed herein. Further, the optimization the properties of the coating accordingly by using different isocyanate or polyol is considered within the skill of artisan.”

However, Tocker does not contain disclosure directed to the water absorption ratio of polyurethane. In addition, since the process of obtaining the polyurethane coating of the present invention is different from Tocker, it is not reasonable to expect the same water absorption ratio. In addition, Applicants submit that one of ordinary skill in the art would not optimize the water absorption ratio, as asserted by the Examiner, and that it appears as though the Examiner is using hindsight, which is improper. That is, since Tocker does not contain disclosure directed to water absorption ratio of polyurethane, one of ordinary skill in the art would not focus on the water absorption ratio without knowledge of the present invention.

Therefore, Applicants respectfully submit that one of ordinary skill would not arrive at the water absorption ration of the claimed invention based on the disclosure of Tocker.

In view of the above, Applicants submit that Tocker, Burger and Kogler fail to teach or suggest the present invention. Accordingly, withdrawal of the foregoing rejection is respectfully requested.

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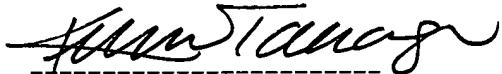
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II. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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